

Periodic Trends Worksheet

Directions: Use your notes to answer the following questions.

1. Rank the following elements by increasing atomic radius: carbon, aluminum, oxygen, potassium.
2. Rank the following elements by increasing electron affinity: sulfur, oxygen, neon, aluminum.
3. Why does fluorine have a higher ionization energy than iodine?
4. Why do elements in the same family generally have similar properties?
5. Indicate whether the following properties increase or decrease from left to right across the periodic table.
 - a. atomic radius (excluding noble gases)
 - b. first ionization energy
 - c. electron affinity
6. What trend in atomic radius occurs across the periodic table? What causes this trend?
7. What trend in ionization energy occurs across a period on the periodic table? What causes this trend?
8. Circle the atom in each pair that has the largest radius.
 - a. Al or B
 - b. Na or Al
 - c. S or O
 - d. O or F
 - e. Br or Cl
 - f. Mg or Ca

Name _____ Date _____

9. Circle the atom in each pair that has the greater ionization energy.

- a. Li or Be
- b. Ca or Ba
- c. Na or K
- d. P or Ar
- e. Cl or Si
- f. Li or K

10. Define electron affinity.

11. Circle the atom in each pair that has the higher electron affinity (a greater energy release).

- a. Ca or Ga
- b. Br or As
- c. Li or O
- d. Ba or Sr
- e. Cl or S
- f. O or S